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CHARLOTTE GRUBB.

To many persons, unacquainted with the prejudices of military society, the situation of Charlotte Grubb, the only unmarried lady connected with a certain marching regiment, might have been supposed to possess some advantages. Had she been the daughter of the colonel, or even of a field-officer of lower rank, doubtless she would have received the deference and respect due to the position held by her father; but claiming the parentage of the assistant-surgeon only, she had no dependence except upon the kindness of the people with whom she associated. She lived in a heartless age; and the officers of her father's regiment, holding themselves very high, in consequence of there being one or two men of fortune in the corps, from whom they took their tone, looked down with supreme contempt upon the assistant-surgeon and his daughter. Charlotte felt herself, and was considered by others, to be an encumbrance; and as no one could doubt that she would gladly exchange her single unblestness for the married state, an establishment was supposed to be the object of all her speculations. There is nothing more injurious to the prospects of a young lady than the impression that she is looking out for a husband. Whether right or wrong, if the idea be once entertained, it generally proves fatal to the matrimonial interests of the party. Mr Grubb had been for many years a widower, and it was with considerable difficulty that he contrived to give his daughter some sort of education, and to maintain her under his own roof; pride, perhaps, or the difficulty of getting her out in the world, preventing him from an attempt to provide for her in any other way. Poor, and not possessed of splendid abilities, the "doctor," if unable to impress his associates with a proper feeling of reverence for virtuous poverty, knew what was due to the respectability of his child; and throughout all the numerous changes and chances of a military life, fenced her round with decorums which a less scrupulous parent might have deemed unnecessary. He did not permit morning visits from the young men of the corps, and was careful to see that his daughter never appeared in public without proper protection. These precautions were sneered at by the idle, the thoughtless, and the ill-natured, of which a large majority of the regiment was composed; but, nevertheless, they shielded the poor girl from the more injurious comments which would otherwise have been made upon her.

Charlotte more than seconded her father's views. From the earliest age, she had been feelingly alive to the disadvantages, and even dangers, of her position. Her pride took alarm at impertinence, and she saw with acute pain the light in which she was regarded by the circle around her. It is difficult for persons in very mean circumstances to secure the good opinion of the world. Many, by contriving to conceal their poverty, succeed in escaping some of its pains and penalties; but when the consciousness is apparent, it never fails to elicit contempt. The humility of the Grubbs, their submission to hardships and privations, which they made no attempt to disguise, exposed them to the scornful pity of persons who were either in better circumstances, or better able to brave the world, and more skilled in the art of keeping up an appearance. Charlotte possessed female companions in the regiment, but no friends. The colonel had married a lady of fashion, and of title; and Lady Harriet Spilsbury associated only with the wives of those officers in her husband's corps to whom it was absolutely necessary to be civil. Whenever she came down to the regiment, she visited all the principal people in the neighbourhood, and was therefore wholly inde-

pendent of military society, while the residents of the place never thought of paying any attention to persons who were not seen at the colonel's parties. The Grubbs were too insignificant to attract notice, and were fain to be content with the public amusements of the place, or tea-drinkings at the houses of the married officers who might feel inclined to waste a little civility upon them. As Charlotte's reserve was proof against the temptations to flirt, which were not wanting from the vain and the idle, her acceptance of the commonest courtesies from those who might be considered marrying men, was universally attributed to matrimonial scheming. Officers joining the corps were put upon their guard against her manoeuvres; and, aware that every eye was upon her, and every tongue ready to utter some malicious remark, she scarcely dared to reply with courtesy to the few who had yet to learn, that, to show incivility to Miss Grubb, was one of the standing orders of the regiment. Cautious, timid, and easily impressed with distrust, Charlotte, nevertheless, had not escaped the miseries produced by the cruel trifling of male coquettes, ever bent upon the destruction or disturbance of feminine peace of mind. Twice she had considered herself to be upon the eve of marriage, and each time had undergone the bitter punishment of ridiculed pretensions.

The first attack sustained by that guarded citadel, her heart, was conducted by a very scientific assailant. Frequent success in similar achievements had made Captain Appleby an adept, and he could calculate with the greatest precision the exact moment in which the affections would surrender themselves; public demonstrations of that surrender formed his final object, and then his attentions slackened; and at last avowed contempt succeeded to the tender blandishments which marked his early advances. Charlotte had gone through all the alternations of this ingenious system. She did not suspect the existence of such consummate duplicity, and was completely unprepared for the doom that awaited her. Her expectations, revealed to the whole regiment, afforded a vast fund of amusement at the time, and became an excellent jest for ever: and in consequence of this unmanly feat, she found herself an object of dislike, distrust, and contempt, to the faded bride, whom Captain Appleby, reduced at last to sell himself for a couple of paltry thousands, introduced to the corps.

The next affair, sincere perhaps at the time on the part of the lover, had proceeded as far as an engagement; but, unfortunately, the young man, who was waiting for promotion, went upon detachment. He had made vows of eternal constancy; but such vows were difficult to keep; and not standing in the slightest awe of the vengeance of "old Grubb," he broke off the correspondence, without thinking it necessary to assign a reason, and took a young lady to wife who chanced to please his roving fancy. Charlotte's second disappointment afforded a fertile theme for regimental wit, and it now required a very considerable degree of moral courage in any man to face the sneers and laughter which would have assailed a professed lover of the assistant-surgeon's daughter. Miss Grubb's susceptibility, thus proved beyond a doubt, formed the subject of endless comment; all the unmarried men in the corps who were possessed of an income adequate to the maintenance of a wife, were compelled in turn to endure the suspicion of being the object of her matrimonial speculations, and the public voice pitched at length upon Major Hawtry, as the fortunate person for whom the lady pined in secret. Major Hawtry, a man of some fashion and fortune, well received in the coteries of London, and considered perfectly irresistible

in provincial circles, entertained the most profound contempt for Charlotte Grubb; and the young desperadoes of the regiment, discovering that it was in their power to tease and mortify the great don of the corps, by accusing him of stealing the tender affection of a girl whom he despised, were never weary of the subject—the mischief likely to result to the young lady being a secondary consideration, while amusing themselves with the suppressed indignation of a coxcomb whom they envied and hated. The poor girl, to whom these mockeries were not unknown, bore them with a show of fortitude. She made no confidante, and whatever might be her sufferings, none knew how deep were the wounds which they inflicted, or the gloomy struggles of an outraged spirit for composure.

Although the ladies of the regiment profited very little by the civilities of the colonel's wife, she contrived to render her occasional residences at headquarters useful to them, by copying the fashions which she brought from London, and making up their own dresses after the models which she wore. The materials, it is true, were rather inferior; but the effect was the same—a disastrous circumstance for the poor lady, and the subject of continual mortification. Leaning from her carriage to listen to the banter, Lady Harriet had the horror of seeing the female commanders of the corps clad in a sort of uniform, all derived from the hat and gown in which she had appeared at church—the ensign's wife substituting black tulle for the satin lining, while fac-similes, as well as they could be contrived, of her lace pelisse were exhibited in bobbinet, worked muslin, and, lastly, in figured leno. It was in vain that Lady Harriet, exasperated beyond endurance, strove by continual changes of costume to render emulation hopeless. It is difficult to baffle female ingenuity. The needles of her tormentors were in constant exercise upon all sorts of rubbish, which, under their dexterous fingers, assumed the appearance of the happiest product of the most felicitous of milliners. A mistake, occasioned by the great resemblance between two hats, worn by two very different personages, led to an extraordinary change in the fortunes of one of the individuals concerned.

The general officer commanding the division came over one day from the garrison in which he was stationed, to inspect Colonel Spilsbury's regiment, which was drawn out for the purpose, upon the adjoining race-ground. Being very near-sighted, and rather purblind into the bargain, he took Miss Grubb, walking in a white paper hat, embroidered with worked, for Lady Harriet Spilsbury, newly alighted from her carriage. The general recognised a wild garland of hops, and could not distinguish the difference. Trifling causes, it is well known, often lead to wonderful effects. An extremely interesting face appeared beneath the paper hat, and a vivid blush, and a low obeisance, acknowledged the unexpected courtesy of the great man, who, surprised into sudden admiration, inquired the name of the young lady to whom he had just spoken. Desiring the aid-de-camp who gave the response to secure the best place at the spectacle to Miss Grubb's party, he rode off to his post, and this trifling occurrence passed unnoticed in the bustle which ensued. The general dined with the officers at their mess, and, somewhat to the surprise of the party, graciously invited Mr Grubb to take wine with him, an act of condescension which drew forth the poor assistant-surgeon's most grateful thanks, and which was considered by those who observed it, to be a cheap attempt at popularity. A party at Lady Harriet's finished the evening, to which, of course, only the elite of the corps were admitted. General Bossett, who, for reasons of his own, joined the circle early, unacquainted

with the domestic arrangements of the corps, inquired of his hostess why he had not the pleasure of meeting Miss Grubb. A hint from a commandant usually proves sufficient. Lady Harriet filled up a card of invitation for Mr and Miss Grubb, directed the post-man to say that he had forgotten to deliver it before, and sent it at so late an hour, that acceptance would have been impossible from any save the humble individuals who did not think themselves entitled to an option. Mr Grubb would not on any account have risked the colonel's displeasure, by appearing to slight the tardy civilities of his proud and capricious wife; and though his daughter was preparing to retire for the night, he urged her to arouse herself to animation, and to make her toilet with all possible dispatch. She obeyed, secretly connecting the incident of the morning with the embossed card, now stuck over the chimney-piece for the benefit of all future visitors.

In an incredibly short period from the date of the invitation, the Grubbs found themselves for the first time in Lady Harriet Spilsbury's elegant drawing-room. Charlotte's entrance occasioned considerable surprise; but nobody thought fit to take much notice of her, and General Bossinett, not desiring to appear too particular, contented himself with keeping an eye upon her, until an opportunity offered to enter into conversation. He was pleased with her manners, and, though too expert a tactician to allow his admiration to appear, it was sufficiently strong to make him lament the necessity of pursuing his tour of inspection on the following day. Charlotte Grubb felt pleased and gratified by attentions from so high a quarter; but she entertained no ambitious hopes. Bred in the school of adversity, her expectations had been sobered down to the realities of her situation; and though she could not help being flattered by the distinction, she was afraid that it would subject her to much of the cruel jocularities from which she had already suffered so deeply.

General Bossinett quitted the place, but his influence did not cease. To the surprise of the whole corps, Lady Harriet Spilsbury called upon Miss Grubb on the morning after her first introduction, and an intimacy took place, for which no human being, save the parties concerned, could account. Charlotte herself was for some time in doubt respecting the cause of so much kind attention on the part of a person who, a short time before, seemed to be scarcely conscious of her existence, and was sometimes disposed to attribute the extraordinary and unlooked-for acts of courtesy to motives of benevolence, wholly foreign to the disposition of her new patroness. Not feeling quite certain of the ground on which she stood, her frequent visits to the colonel's mansion did not lead to too strong an elation of spirit. She knew, that, when Lady Harriet should take her departure, all her mortifications would be redoubled; and though no one now became a mark for the raillery of the facetious, on account of any little civility to her, such moderation would not last for ever. The visitors at the colonel's mansion were obliged to treat Miss Grubb with some degree of respect, and many deemed it expedient to be polite. Major Hawtry did not belong to this number. He seemed absolutely to be offended by her presence, and, convinced that she was in love with him, felt afraid that he was giving too much encouragement to her presumption, by sitting in the same room with her. Lady Harriet, who, from the first, had been in General Bossinett's confidence, invited Miss Grubb to accompany her to a small watering-place about thirty miles distant, but within an easy ride of the headquarters of the district. Here she had frequent opportunities of seeing her admirer, and here she took the whole garrison by surprise, by the announcement of her marriage. The wedding was celebrated in a very private manner, General Bossinett being averse to all show, and, moreover, feeling that he had in some degree rendered himself obnoxious to the ridicule of his juniors, by committing a love match at so advanced a period of life. The sudden elevation of a person whom we have despised and ill treated, cannot fail to excite a vitious sensation; and, even in the absence of feelings of self-reproach, few have sufficient generosity to rejoice when an inferior is raised above them. The general's marriage threw a damp over the society which his bride had quitted. Major Hawtry styled it an awful misalliance; and the others, though endeavouring to laugh over their secret vexation, showed that the attempt was a failure. The assistant-surgeon, who had been frequently practised upon by the wicked

solemnity of his quizzers, had penetration enough to perceive that the congratulations poured into his ear were forced; he learned, indeed, that it was a very fine thing to be father-in-law to so magnificent a person as a general commanding a district, but he took the civil speeches made upon the occasion for what they were worth.

If Charlotte Grubb had been of the mould from which fictitious heroines are formed, she would have signalled her elevation by a show of astonishing magnanimity, forgetting all the slights and injuries put upon her by the ungenerous members of the corps, and, by sparing them, teaching them to spare others who might be in situations resembling that from which she was just emancipated. But Charlotte was of human, not poetic nature; and it becomes our duty, as accurate historians, to mention, that, having a little spice of spirit in her disposition, as well as some share of humour, she was not disposed to take a gentle revenge for the insults she had suffered. When, some months after her marriage, Colonel Spilsbury's regiment was marched, by a fiat of the War-office, to the garrison commanded by her husband, the greater part of the officers found themselves rigidly excluded from the entertainments at which she presided. This was a dreadful blow. Their pride was humbled to the dust. They now saw the hideousness of their former conduct in its proper light. May we not say that their punishment was just? The Applebys, who had proved the greatest delinquents, were marked out as peculiar victims; and it was curious to observe how meanly they comported themselves under the infliction. Meanness, however, is always to be found in connection with tyranny, and the Applebys were not singular in this respect.

The ease with which Mrs Bossinett fell into the duties and observances of her new situation, astonished all her former acquaintance. Few could have guessed how rapidly she had risen from the subordinate ranks, and how recently she had become invested with all the power to disturb, discomfit, harass, and annoy, all underlings and inferiors, given by the articles of war, the mutiny act, and the rules and regulations of the service, to the wife of a major-general in command. She could with difficulty be recognised in her new character by those who had known her long and intimately. Her manners, which had been humble and reserved, were now self-possessed and almost haughty. She was distinguished for a plain richness of attire; and by well-timed allusions to her former poverty, she defeated the malice of those who might have taken pleasure in recalling it to her recollection. In short, she seemed to know, by intuition, what to discard and what to retain, appertaining to her former condition, in order to secure the respect of the circle to which she had been so lately introduced. To no person was the bride's position so completely altered as towards Major Hawtry. Her assumed partiality had rendered her, in her unmarried days, an object of such extreme contempt to this gentleman, that he had never been at the trouble to observe whether she was handsome or not. The first glance which Major Hawtry obtained of the general's bride, completely changed the current of his feelings. They met at a ball, at which she took the lead with all the grace and dignity which might have been expected from those who possessed many more early advantages than fell to her share. A plain and very simple robe of dark velvet fell in easy folds over a figure, whose contour had never been so favourably displayed before. A margin of rich white silk appeared above the edge of the bosom, and formed a second sleeve, affording such relief to the sombre drapery as a painter would bestow. A splendid diamond ornament clasped the robe at the bosom, and a single row of the same brilliant gems was passed across the forehead, over the dark and redundant tresses, arranged with classic taste. This personage certainly bore no resemblance to the bead-braceleted, artificial-flowered nymph, tricked out in tarnished frippery, whom the military exquisite suspected of an intent to lay siege to his heart. The major's character being compounded of selfishness and vanity, the transition from abhorrence to an air of devoted attachment was perfectly easy. For a whole evening this latter feeling was read in his countenance and manner by scores who remembered well the extravagant antipathy he had lately expressed for Miss Grubb. Whispers were already afloat, to the effect that the major seemed inclined to reciprocate the compliment which he had only suspected Miss Grubb of being disposed to pay to himself; and in these whispers the inequality of the general and his lady, in point of age, bore a prominent place. What was the mirthful surprise of the company, when, on Hawtry at length making up to the lady, and asking her in his most winning tones to dance, she gave him a scarcely civil refusal, and turned away with a contemptuous smile! The poor major vanished instantly; nor was he seen on parade for the two ensuing days.

When time and change of place had brought Mrs Bossinett into new society, she conducted herself with

a graceful ease and kindness towards the ladies around her, which rendered her a general favourite. Her husband was also heard frequently to bless the day when he mistook the bonnet of Charlotte Grubb for that of Lady Harriet Spilsbury.

THE EAR.

THE nature and phenomena of sound have been, on several preceding occasions, explained at considerable length in the Journal. The subject, however, would be incomplete without some explanation of the structure and mechanism of the ear, to which sound bears exactly the same relation that light does to the eye. Unless our bodies possessed an organ, wonderfully constituted, for the purpose of receiving the impressions of sound, one important means (second only to vision) which we have of acquiring a knowledge of things external, would be lost. Such being the value, then, of this organ, a familiar description of its structure and mechanism cannot but be interesting.

In a small but excellent Treatise on the Ear, by Mr Webster, that author observes, "The ear, in relation to its separate functions, and the parts essential to their exercise, may be divided thus: the auricle, or visible ear—the use of which is, to collect sound; the external auditory passage, the membrane of the tympanum (or drum), and the small bones within it—which serve to concentrate the force of sound, and impress it on the internal ear; and the internal ear, consisting of the vestibule, semicircular canals, and cochlea, comprehended under the name of the labyrinth—in which parts sound is rendered cognisable to the mind." Beginning with the external ear, we shall describe these parts successively.

The external ear is the natural ear-trumpet. It is spread out for the collection of sound, and is formed of a substance named cartilage, which holds an intermediate consistence between bone and flesh. In this we observe a purpose: from bone, vibrations of sound would be reverberated, and by flesh they would be absorbed, while such a substance as cartilage is calculated to avoid either reverberation or absorption. It is covered with a very thin skin, and has several channels or depressions, which all lead into one cavity, in which the passage to the drum commences. These channels need not be particularly described, their general purpose of collecting sound being all that is worthy of note. This purpose is sufficiently shown by their termination in the central cavity termed the concha. Over this cavity, from the facial side, projects a lobe, called the tragus, which, while it does not impede the entrance of sound from the channels, prevents the admission of dust, or small bodies, which might injure the delicate function of the drum. From the concha, the external auditory passage extends inwards, terminating in the drum. It is about one inch in length in the adult, is narrower in the middle than at the ends, and presents a slight curve above and in front. For the first three-fourths of its length, the sides of the passage are formed by a continuation of the cartilage of the ear, and the remainder consists of bone, being a cavity of the temporal bone, within which the parts of the inner ear lie. A delicate membrane lines the passage; and to assist the tragus in excluding particles of dust and insects, short hairs spring from the membrane. From this membrane the secretion termed wax exudes, regarding the use of which there has been considerable dispute. One object served by it, we believe to be the same as that for which the hairs are intended—protection, to wit, to the drum against insects. The torture caused by the presence of an insect in the ear is extreme. A gentleman, into whose ear a flea once had found its way, describes the sensation as dreadful, and compares the noise made by the restless intruder to the rumbling of a cart. Application to a medical man was necessary before the sufferer could be relieved. Now, the bitter taste of the wax will drive back in general any insect that may have overcome the obstacle presented by the hairs. We may observe, that the gentleman alluded to above, ever afterwards recognised the wisdom of the proverbial saying, which compares a restless man to one with a flea in his ear. The wax, it may be added, most probably serves other purposes, since a deficiency of it causes serious inconvenience.

The sonorous vibrations collected by the winding channels of the external ear, and transmitted along the auditory passage, strike the tympanum or drum, which divides the outer from the inner ear. It stretches obliquely from above downwards across the bottom of the passage, and, in a natural state, is impervious to air. The drum, properly speaking, is composed of three membranes, the outer one being a continuation of the membrane which lines the passage, the inner one a similar reflection of the membrane lining the parts within, while the middle one is composed of radiated fibres, which some have supposed to be muscular, and to have the power of rendering the drum laxer or tenser, so as to suit the degree of rapidity and force with which the sonorous vibrations strike. This duty, however, which is undeniably a most important one, is more probably executed by a muscular arrangement to which we shall allude afterwards. The purpose of the drum is to receive the sonorous vibrations from without, and to repeat them, so that the inner

parts may take them up, and render them cognisable to the mind.

Inside of the membrane, is the cavity of the tympanum, which cavity is, properly speaking, the drum of the ear, though we have hitherto, in accordance with the common practice, applied the name of drum to the membrane which closes up the auditory passage. This cavity resembles a drum in many points. The membrane closing up the external passage corresponds to the top of the instrument; another, opposite to the last, answers to the bottom; and as every drum requires a hole for the admission of air, so the cavity in question has a tube, called the Eustachian, which communicates with the back part of the mouth for the same purpose. "The Eustachian tube," says Paley, "is a slender pipe, but sufficient for the passage of air into the cavity of the tympanum. Now, it would not have done to have had a vacuum in this cavity; for, in that case, the pressure of the atmosphere from without would have burst the membrane which covered it." The same author goes on to observe, "That it would not have done either to have occupied the space with confined air, because the expansion of that air by heat, or its contraction by cold, would have distended or relaxed the covering membrane, in a degree inconsistent with the purpose which it was assigned to execute. The only remaining expedient, and that for which the Eustachian tube serves, is to open to this cavity a communication with the external air. In one word, it exactly answers the purpose of the hole in a drum." The Eustachian tube serves to moderate the effect on the ear of violent sounds, and to quicken our perception of slight ones. In attempting to catch a faint sound, experience leads us to open our mouths, that the tube may assist the usual passage in conveying the noise to the inner ear. On the other hand, in training artillerymen, beginners are taught, Mr Webster informs us, to open their mouths in firing off cannon, it having been found that the explosion is less likely to injure the membrane of the ear-drum, when the cavity is filled with air in a similar state of vibration through the tube. The membrane is supported from within.

The instrument called a drum, however, is a complete instrument; the cavity in the ear so closely resembling it is only a portion of an instrument—a link in a chain. The impressions received from the air by the outer membrane of the cavity, are conveyed by a set of small bones to the inner, or opposite, membrane, which is called the membrane of the fenestra ovalis, or oval window, from its covering a hole in the bone leading into the deeper seated parts of the ear. Thus we have pointed out in the cavity of the tympanum, which is scooped out of the most solid part of the temporal bone, two membranes, covering apertures, and one open tube, the Eustachian. There is another aperture called the foramen rotundum, or round hole, to be explained afterwards. The entrance to the mastoid cells is another passage from the cavity; these cells, which are situated in the projection or knob behind and below the ear, will be explained shortly.

The chain of bones, which convey vibrations from one side of the cavity to the other, amounts to three in number. These are all small, and the least of them is no larger than a millet-seed. They are all called by names descriptive of their shape. And first in the chain is the *malleus*, or hammer, which has its long handle attached to the centre of the ear-drum (the membrane); the second is the *incus*, or anvil; and the last is the *stapes*, or stirrup, which touches the membrane termed the oval window. These bones are attached to each other by regular joints, and are moved by minute muscles provided for that purpose. Those muscles which move the hammer-bone have likewise the task of tightening or relaxing the membrane of the ear-drum, according to most authors. In pulling the bone, they necessarily act on the membrane to which it is attached.

The great difficulty in comprehending the structure of the ear, lies in remembering the relative position of the parts. Let us therefore recapitulate a little. The external ear, the auditory passage, the drum, and the cavity of the drum, with its contents, are the parts we have described. One-fourth part of the passage, it will be recollected, is in the temporal bone, and so, accordingly, are all the latter parts. The oval window was the part mentioned as closing up the cavity of the drum, on the inner side. Beyond it is situated the labyrinth, the deepest seated portion of the organ of hearing. It consists of three portions—the semicircular canals placed superiorly, the vestibule in the middle, and the cochlea undermost. The semicircular canals are three tubes shaped like three loops of a knot, and arise out of the vestibule, a round chamber, from which the cochlea hangs down, resembling, as its name partly implies, the shell of a snail. The canals, vestibule, and cochlea, are all formed of bone, and are called the bony labyrinth, to distinguish them from closed tubes, filled with water, which follow the windings of the canals and vestibule, and float loosely in them, but which are not found in the spiral convolutions of the cochlea. Being shaped exactly like the bony parts in which they hang, these bags are termed the membranous labyrinth. The bony labyrinth also is filled throughout with a watery fluid.

Though the use of every minute portion of this complicated structure is by no means clear, the impressions of sound, according to our best knowledge on the subject, permeate the ear in the following manner:—The sonorous vibrations of the air, being

collected by the external ear, are directed down the auditory passage, and, striking against the membrane of the ear-drum, throw it into vibrations of the same frequency. Corresponding vibrations, again, are excited in the air contained in the cavity of the drum, which communicates with them in its turn to the membrane of the foramen rotundum, or round hole, which, it will be recollected, divides the cavity of the drum from the cochlea. By this means, the fine nervous expansion lining the cochlea, and the fluid in it, are affected by the sonorous vibrations. The vestibule and canals receive them in a more direct way, namely, by the chain of bones which touch at one end the membrane of the drum, and at the other the membrane of the oval window looking into the vestibule. Thus received, the sonorous vibrations permeate the windings of the canals and the cochlea, and produce impressions on the nervous filaments. From these the mind receives the sensation of sound. The mastoid cells, as well as other cavities in the neighbourhood of the ear, are for the purpose of heightening the effect produced, by reverberation.

That the water contained both in the membranous and the bony labyrinth is of essential service, we cannot doubt, when we recollect that water transmits sound with four times the intensity of air. We can even trace by analogy some reason for the closed bags of water floating loosely in the inner ear. In certain fishes, the whole mechanism of the organ of hearing consists of closed bags of water, with chalk stones floating in them. By placing a marble in a bladder filled with water, and shaking it slightly, the marble is set in motion, and gives such a concussion to the hand, as explains perfectly how effectual the same arrangement must be in transmitting undulations to the ear. It is true, that, in man's ear, the closed bags contain no stones, yet their purpose must be of a similar nature.

We have now endeavoured to give a brief view of the mechanism and physiology of the organ of hearing, and it is only necessary to add, that a derangement in any part of the structure produces deafness, or a want of hearing. The subject of deafness will, however, engage our attention at a subsequent opportunity.

EDITORSHIP OF MORNING NEWSPAPERS.

[The following account of the business of editing the London morning newspapers is given by Mr Grant in his interesting work, "The Great Metropolis."]

THE task of conducting a morning journal of large circulation and influence, is a most arduous and responsible one. The time for getting up each successive number is of necessity short; hence the labour and responsibility of the editor are increased. He is often obliged to decide on the insertion or rejection of matter, on the spur of the moment. Then there is such an amazing quantity to examine and select from. That, under these circumstances, so little matter personally injurious to individuals, or adverse to the interests of society—for abundance of such matter daily comes before an editor—should find its way into our leading morning papers, is really surprising. Nothing but a sort of intuitive sagacity on the part of their conductors can account for the circumstance. No one not intimately acquainted with the newspaper press of London, can have any notion of the laboriousness of the task of reading the communications sent by correspondents alone. If I recollect rightly, "The Times" once mentioned, two or three years since, that on some occasions of great public excitement, as many as from three hundred to three hundred and fifty letters, were addressed to the editor daily. A large proportion of the letters addressed to newspaper offices are written in so bad a hand, that to compel a person to read them fairly through, would be as great a punishment as one's most inveterate enemy could wish to inflict. Of course, the editor of "The Times" could not be expected to read such a quantity of letters himself; that, indeed, would be physically impossible in the time allowed, even supposing he had nothing else to do; but much of his time is necessarily occupied in such cases, in listening to the representations made by his assistants respecting the contents of particular communications: and much judgment is required to decide on those which shall be rejected or inserted, or remarked upon in leading articles.

Then, again, much of the time of the editor of a morning paper is consumed by interviews with persons who call on him on the business of the paper. It may be that the object of their visit is to ask that some portion of his columns should be appropriated to bring into notice some society, or cause, or other thing, in which the person applying is individually, either directly or indirectly, interested. Of course, however, the pretext is, that the public—a personage in whose behalf every one professes to feel a prodigious interest—and not the individual, will be benefited by compliance with the request which he makes.

But these, irksome and inconvenient though they be, are not the most annoying interviews which an editor has to encounter in his *sanctum sanctorum*. A still more unpleasant kind are those in which the parties have come to complain of some real or supposed injury done them by the paper, and to demand that the *amende honorable* be made in the publication of the following day.

The editor of a morning paper is subject to countless other annoyances, arising from circumstances connected with the office. He has not only to answer for

his own sins, but for those also of the whole establishment. He is a sort of scape-goat for the transgressions of all below him. If a correspondent in Dublin, Paris, Vienna, Constantinople, the Antipodes, or any where else, happen to fall into an error—no matter how unimportant—the ill-fated editor may rely on it, that some lynx-eyed reader will discover it, and make a pompous parade of his superior discernment in so doing. If a compositor makes a typographical error which escapes the corrector of the press, in the advertisement of some "maid of all-work" who wants a place, and "who can have an undeniable character from the situation she has left," there could not be a fairer ground for "pulling up" the editor. It is true her maidship does not do it herself; for a very good reason—she cannot, not having been visited by the schoolmaster, though so long abroad; but then she is acquainted with some footman who can do a little in the way of making hieroglyphics, and can spell one word accurately in twenty; and nothing can afford him greater pleasure than to become the medium of conveying Sally's indignation to the "editor." Nay, if even the machine-men and the devil—I mean of course the printer's devil—do their work slovenly, the public visit in their own minds, if they do not express it, their indignation on the hapless head of the editor. He is abused every where and by every body.

But of all the endless sources of annoyance which beset the path of an editor, that of disposing of the communications of amateur correspondents of his "valuable journal," is undoubtedly the greatest. The badgering to which these personages subject him, were enough, though every thing else were smooth as the unruffled stream, to make him curse his destiny. They are the most unreasonable and unmanageable class of animals on the face of the earth. If their communications are rejected, the editor is set down as the greatest dolt in Christendom, and he may expect next day to be told that he is so. When the communication was sent, a little flattery was resorted to, in the hope of paving the way for the insertion of the article; the journal in whose columns the amateur sought to shine, was incomparably the best extant: now it is the vilest and dullest print which ever issued from the press. In rejecting the communication, the editor has proved to demonstration that he is unfit for his office: he has compromised the interests of the proprietors, and ought to be dismissed forthwith. If the editor accepts the communication, but is obliged from a press of matter to delay the insertion for a short time, the amateur correspondent writes complaining of the postponement, and worrying the luckless editor as much about it, as if the destinies of the world were dependent on its publication. Every such correspondent always looks on his own communications as the most important matter which could find its way into the columns of a newspaper; and feels a supreme contempt for the judgment of an editor who could insert an account of a French, or any other revolution, in preference.

I have said nothing of the unseasonableness of the hours at which the editor of a morning paper has to perform the duties which devolve upon him. He goes to the office about seven or eight o'clock. Until ten or eleven—sometimes later—he is usually employed in seeing parties on business, examining communications, or attending to other matters of minor moment. It is after that time that his more arduous and important labours commence: so that, when other people are about to retire to rest, he is beginning to "cudgel" a leading article out of his brains, wherewith to instruct and amuse the metropolitan world on the morrow. Between eleven and two o'clock, the editor of a morning paper is usually hardest at work for his readers; a period at which most of them are asleep.

To conduct a morning paper with success, the most consummate sagacity, coupled with great facility in writing, is requisite on the part of the editor. He has no time for deliberation: he must choose his subject in a moment, as if he possessed the attribute of intuition in such matters. If ever a human being had need of the hundred eyes of Argus to observe the innumerable topics claiming his attention, he is that person. And his time for writing is as limited as that for selection; it must, also, be done on the spur of the moment. His ideas must flow rapidly from his pen: he has no time to wait to see whether they will come in answer to his call from the "vasty deep" of his mind: he forces them up, whether they will or not. It is surprising to see the able articles which appear, day after day, in the leading morning papers, notwithstanding the extreme haste and manifold disadvantages under which they are written. Some of them are as finished and masterly pieces of composition as if they had been the result of weeks and months of careful thought. They are as masterly in conception and accurate in style, as if, like the *Æneid* of Virgil, they had been written for eternity, instead of only for the passing hour. Hazlitt often expressed his surprise at the finished theatrical criticisms which every now and then appeared in the morning papers, in reference to pieces produced on the previous evening: the ability and taste which the leading articles displayed in his time, as well as now, ought especially to have elicited from him expressions of wonder and admiration.

By far the most amusing circumstance that has ever come to my knowledge respecting the rivalry of any two country papers, occurred some years ago in the case of two West-of-England journals. As the chief recommendation of all provincial papers is the

interest and quantity of their local news, the two editorial personages to whom I refer, principally displayed their hostility to each other by a deadly rivalry in that kind of intelligence. The one journal was published on the Friday, and the other on Saturday. It occurred one moonlight Thursday evening, while he of the Saturday paper was walking alone about half a mile distant from the town, that he observed, a short distance off the road, the body of a man suspended by the neck from a tree. The man, in other words, had committed suicide by hanging himself. A fit of alarm seized the editorial "we," lest the discovery of the man having destroyed himself should be made that night, and consequently the rival journalist be the first to give the particulars of a circumstance which could not fail to produce a great sensation in the place. If Friday's "Chronicle" had the intelligence before the Saturday's "Courant," it would be the making the fortune of the former, while it would be all but the ruin of the latter. What was to be done to prevent it? A thought struck the conductor of "The Courant": he would, assisted by a confidential person employed in the office, cut down the body, and secretly convey it to a stable of his own, where he would conceal it till the following night—against which time the rival journal would be published—and then return with it to the spot where he found it. A horse and cart were procured, and the deceased was conveyed to the editor's stable, where the body was covered with straw. Next morning, a servant having occasion to remove part of the straw, discovered the body of the deceased. He immediately informed some persons who were passing the door of the stable at the time: in ten minutes the authorities were apprised of the circumstance. An inquiry into the matter was immediately instituted. Suspicions fell on the journalist; he had been seen, attended by one of the men in his employ, taking something out of a cart, and carrying it into the stable on the preceding night. He was taken into custody: a coroner's jury sat on the body: a number of circumstances, strongly presumptive of his having strangled the deceased, transpired in the course of the coroner's investigation; and his own life, according to all appearances, was about to become the price of his anxiety to deprive his rival of "interesting local news," when, happily, a small slip of paper, which had been overlooked in the first instance, was found in one of the deceased's pockets, which contained, in his own handwriting—he had by this time been identified—a declaration of his resolution to destroy himself. His narrow escape, and the trouble he got himself into, made the journalist more cautious in future as to the means he took to obtain "exclusive" local news.

THOUGHTS ON COMMON-PLACE SUBJECTS.

TRADESMEN TO GREAT PEOPLE.

The middle classes are constantly censuring the upper, for the deference paid amongst the latter to slightly superior rank, and their contempt for every kind of merit but that which has been stamped by title. But the middle classes are themselves much more addicted to an undue and silly veneration for extrinsic greatness. This is mortifyingly shown in their eagerness to obtain such distinctions as that of being bootmaker to the king, saddler to the queen, and grocer to some of the royal dukes. It is very well really to be the individuals employed to make and furnish the necessities of life for royal and noble personages; but, even where the custom is given, it is contemptible to boast of it, as is done, by ostentatious displays of royal arms, and pompous sign-boards. Much more contemptible is it to seek such appointments, where no consequent orders are expected. In our own country, for instance, we have booksellers and what not to royal personages "for Scotland," which no royal personages enter once in a hundred years, and where of course the appointment confers nothing but the power of making a parade of lions and unicorns, and sounding titles. How eminently senseless to shut out all consideration of the broad public, who alone give them trade and bread, and profess to be exclusively linen-draper, or stocking-maker, or whatever else, to a personage who scarcely knows of their existence, and probably will never send sixpence their way to the end of his life! But no—the public is not put out of view by this device. It is on the contrary expected to have a most seducing effect upon mankind at large. None can resist buying their stockings and linens where the king, by a fiction, is supposed to buy his!—as if any virtue could be imparted to a pair of stockings by the circumstance—even if it were true—of the king having bought a pair from the same shop. Or, possibly, it is supposed that he who is bootmaker to some royal highness must be a tradesman of high respectability and consequence. If so, have we not a tradesman pluming himself upon a servile connection with title—an irrationality, we humbly think, much more lamentable than that which consists in a pluming one's self upon the actual pos-

session of it, the great fault charged by the middle upon the upper classes.

If we could see anything in the least degree respectable in this practice, we should not notice it. But, regarding it as simply an exhibition of servile and parasitical spirit, we unhesitatingly condemn it. Surely authority is not required for shoes and stockings and shirts, nor the stamp of royal favour for leather braces. It is surely possible to be an honest and thriving tradesman, without the protection of a great man's livery or heraldic insignia, stuck with ostentatious self-degradation over one's door, as if that great man's penny were better than another's, or his name were necessary some how to one's existence. The whole thing is an unreal and unprofitable mockery, and we heartily wish it were at an end.

THE BENEVOLENT AND THE UNFORTUNATE.

The world is cried out upon for hardness of heart towards the unfortunate; the individuals who do so forgetting, that, if the world were as they say, they should not be saying so. Many, no doubt, are hard-hearted; but there is much benevolence also. There would be still more, if those in the way of calling for exemplifications of benevolence did not themselves, in many cases, preclude its being manifested. While many of the wretched cannot get a friend or a benefactor, we do not hear of the many disposed to be benefactors, who cannot get subjects upon which they may safely or creditably exercise their benevolence. We have known many good people, who, though it was not in their nature altogether to abstain from good-doing, yet were greatly cramped and chilled in their efforts, by the frequent evil issue of their endeavours. Pecuniary benefactions ill spent—situations, when with great difficulty obtained, dishonoured and lost—recommendations abused—and tales of woe proved to be in a great measure false—such are a few of the more common circumstances which tend to check the generous hand, and make benevolent people resign their efforts in despair. Advantage is often taken of these circumstances by the selfish, to excuse habitual hardness of heart towards the miserable. But this is of no importance whatever. The selfish would do nothing at any rate. It is in as far as the really benevolent are prevented from following their disposition, that we have to lament the frequent ill deserving of the unhappy, and their so often making it impossible to befriend them. The fact is here alluded to, without any hope of rendering the unfortunate more generally worthy of compassion, but simply for the purpose of giving our testimony to what we believe to be a truth.

BARGAIN-MAKING OF THE AMERICANS.

On this subject, which has lately been the theme of so much ungracious remark in the works of British travellers in America, a Scottish correspondent, settled in the state of New York, thus writes:—"I told me I should not succeed in business; the natives were so much more adroit and acute at bargain-making than foreigners, that there is no chance for the latter except as farmers. From my own observation, I thought this as wide of the mark as could be. To me, foreigners seem the most expert of the two by fifty per cent. The American is wonderfully shrewd, and sees the best side of a bargain at a glance. But there is a clumsiness about his manoeuvres that foils his dexterity. Your practised Scot, again, never displays his weapons, shows no fence till the actual tug of war takes place; hence he is more cool, dexterous, and adroit, than the vapouring Yankee, and foils him even with his own weapons. An American must boast of his smartness at driving a bargain—he must boast of his day's gains, and how much he made by such a transaction. An Englishman will sometimes do so also. But catch Sanders bragging of his gains. You might as soon expect to find a poetaster despoising praise, or a beggar a babble." In these observations of our correspondent, there seems to be some philosophy. Extreme sharpness in business, when it characterises individuals amongst ourselves, always defeats its own ends.

A NEW USE OF RUSHES.

The principal obstacle to the use of steam-vessels on canals, has, we believe, been the falling in of the banks, caused by the motion of the water from the paddles. The following expedient is adopted in the canal of Languedoc, in the south of France, to prevent injury from this cause:—The banks are thickly planted with bulrushes at the water's edge, and these, by binding the soil at the roots, prevent the waves from washing away the earth, stones, and turf. We have seen rushes growing on the banks of some of our canals, but we do not know whether they grow accidentally, or are the object of attention and regular cultivation. It has always appeared to us that the banks of canals are made too steep. If the shores

were more gradual in their descent, or if even the shore of one side sloped, to allow the waves to expend themselves, much injury would be saved. Every encouragement should at least be given to the growth of rushes and other aquatic plants on the banks, subject to regular cutting and training.

THE PROPHET OF THE ALLEGHANY.

In the year 1798, one of the missionaries to the Indians of the north-west was on his way from Tuscarora settlement to the tribe of the Senekas. Journeying in pious meditation through the forest, a majestic Indian darted from its recesses, and arrested his progress. His hair was somewhat changed with age, and his face marked with the deep furrows of time; but his eye expressed all the fiery vivacity of youthful passion, and his step was that of a warrior in the vigour of manhood.

"White man, whither wanderest thou?" said the Indian. "I am travelling," replied the meek disciple of peace, "towards the dwellings of thy brethren, to teach them the knowledge of the only true God, and to lead them to peace and happiness." "To peace and happiness!" exclaimed the tall chief, while his eye flashed fire; "behold the blessings that follow the footsteps of the White man! Wherever he comes, the nations of the woodlands fade from the eye, like the mists of the morning. Once over the wide forest of the surrounding world our people roamed in peace and freedom, nor ever dreamed of greater happiness than to hunt the beaver, the bear, and the wild deer. From the furthest extremity of the great deep came the White man, armed with thunder and lightning, and weapons still more pernicious. In war, he hunted us like wild beasts: in peace, he destroyed us by deadly liquors, or yet more deadly frauds. Yet a few moons had passed away, and whole nations of invincible warriors, and of hunters, that fearless swept the forest and the mountain, perished, vainly opposing their triumphant invaders, or quietly dwindled into slaves and drunkards, and their names withered from the earth. Retire, dangerous man! Leave us all we yet have left—our savage virtues; and do not, in the vain attempt to cultivate a rude and barren soil, pluck up the few thrifty plants of native growth that have survived the fostering cares of the people, and weathered the stormy career of their pernicious friendship." The tall chief darted into the wood, and the good missionary pursued his way with pious resolution.

He preached the only true Divinity, and placed before the eyes of the wondering savages the benign precepts of Christianity. The awe-struck Indians, roused by accumulated motives, many of them adopted the precepts of the missionary, as far as they could comprehend them; and, in the course of eighteen months, their devotion became rational, regular, and apparently permanent.

All at once, however, the little church in which the good man was wont to pen his fold, became deserted. No votary came, as usual, to listen, with decent reverence, to the pure doctrines which they were thus accustomed to hear; and only a few solitary idlers were seen, of a Sunday morning, lounging about, and casting a wistful, yet fearful look, at their little peaceful, and now silent mansion.

The missionary sought them out, inquired into the cause of this mysterious desertion, and told them of the bitterness of hereafter to those who, having once known, abandoned the religion of the only true God. The poor Indians shook their heads, and informed him that the Great Spirit was angry at their apostasy, and had sent a prophet from the summit of the Alleghany mountain, to warn them against the admission of new doctrines; that there was to be a great meeting of the old men soon, and the prophet would there deliver to the people the message with which he was entrusted. The zealous missionary determined to be present, and to confront the impostor, who was known by the appellation of *The Prophet of the Alleghany*. He obtained permission to appear at the council, and to reply to the prophet. The 12th of June 1802 was fixed for determining whether the belief of their forefathers, or that of the White men, was the true religion.

The council-house not being large enough to contain so great an assemblage of people, they met in a valley west of Seneca Lake. This valley was then embowered under lofty trees. On almost every side it is surrounded with high rugged hills, and through it meanders a small river. It was a scene to call forth every energy of the human heart. On a smooth level, near the bank of the slow stream, under the shade of a large elm, sat the chief men of the tribes. Around the circle which they formed, was gathered a crowd of wondering savages, with eager looks, seeming to demand the true God at the hands of their wise men. In the middle of the circle sat the aged and travel-worn missionary. A few grey hairs wandered over his brow; his hands were crossed on his bosom; and as he cast his hope-beaming eye to heaven, he seemed to be calling, with pious fervour, upon the God of Truth, to vindicate his own eternal word by the mouth of his servant.

For more than half an hour there was silence in the valley, save the whispering of the trees in the south wind, and the indistinct murmuring of the river. Then, all at once, a sound of astonishment passed through the crowd, and the Prophet of the Alleghany was seen descending one of the high hills. With fu-

rious and frenzied step he entered the circle; and, waving his hand in token of silence, the missionary saw, with wonder, the same tall chief who, four years before, had crossed him in the Tuscarora forest. The same panther-skin hung over his shoulder; the same tomahawk quivered in his hand; and the same fiery and malignant spirit burned in his red eye. He addressed the awe-struck Indians, and the valley rung with his iron voice.

"Red Men of the Woods! hear what the Great Spirit says to his children who have forsaken him! Through the wide regions that were once the inheritance of my people, and where, for ages, they roved as free as the wild winds, resounds the axe of the White man. The paths of your forefathers are polluted by their steps, and your hunting-grounds are every day wrested from you by their arts. Once, on the shores of the mighty ocean, your fathers were wont to enjoy all the luxurious delights of the deep. Now, you are exiles in swamps, or on barren hills; and these wretched possessions you enjoy by the precarious tenure of the White man's will. The shrill cry of revelry or war, no more is heard on the majestic shores of the Hudson, or on the sweet banks of the silver Mohawk. There, where the Indian lived and died, free as the air he breathed, and chased the panther and the deer from morn till evening, even there, the Christian slave cultivates the soil in undisturbed possession; and, as he whistles behind his plough, turns up the sacred remains of your buried ancestors. Have you not heard at evening, and sometimes in the dead of night, those mournful and melodious sounds that steal through the deep valleys, or along the mountain sides, like the song of echo? These are the wailings of those spirits whose bones have been turned up by the sacrilegious labours of the White men, and left to the mercy of the rain and the tempest. They call upon you to avenge them. What, I ask, are those blessings which you owe to the Christians? They have driven your fathers from their ancient inheritance; they have destroyed them with the sword and poisonous liquors; they have dug up their bones, and there left them to blanch in the wind, and now they aim at completing your wrongs, and insuring your destruction, by cheating you into the belief of that divinity, whose very precepts they plead in justification of all the miseries they have heaped upon your race. Hear me, O deluded people, for the last time! If you are determined to listen with credulity to the strange pernicious doctrines of these Christian usurers, if you are unalterably devoted to your new gods and new customs, if you will be the friend of the White man, and the follower of his God, my wrath shall follow. I will dart my arrows of forked lightning among your towns, and send the warning tempests of winter to devour you. Ye shall become bloated with intemperance, your numbers shall dwindle away, until but a few wretched slaves survive; and these shall be driven deeper and deeper into the wild, there to associate with the dastard beasts of the forest, who once fled before the mighty hunters of your tribe."

The prophet ended his message, which was delivered with the wild eloquence of real or fancied inspiration, and all at once the crowd seemed to be agitated with a savage sentiment of indignation against the good missionary. One of the fiercest broke through the circle of old men to dispatch him, but was restrained by their authority.

When this sudden feeling had somewhat subsided, the mild apostle obtained permission to speak, in behalf of Him who had sent him. Never have I seen a more touching, pathetic figure, than this good man. He seemed past sixty; his figure tall and bending, his face mild, pale, and highly intellectual; and over his forehead, which yet displayed its blue veins, were scattered, at solitary distances, a few grey hairs. Though his voice was clear, and his action vigorous, yet there was that in his looks which seemed to say his pilgrimage was soon to close for ever.

With pious fervour he described to his audience the glory, power, and beneficence of the Creator of the whole universe. When he had concluded this part of the subject, he proceeded to place before his now attentive auditors the advantages of civilisation, learning, science, and a regular system of laws and morality. He contrasted the wild Indian, roaming the desert in savage independence, now revelling in the blood of enemies, and, in his turn, the victim of their insatiable vengeance, with the peaceful citizen, enjoying all the comforts of cultivated life in his happy land; and only bounded in his indulgences by those salutary restraints which contribute as well to his own happiness as to that of society at large. He described the husbandman, enjoying, in the bosom of his family, a peaceful independence, undisturbed by apprehensions of midnight surprise, plunder, and assassination; and he finished by a solemn appeal to heaven, that his sole motive for coming among them was the love of his Creator and of his creatures.

As the benevolent missionary closed his appeal, Red Jacket, a Seneca chief of great authority, and the most eloquent of all his nation, rose, and enforced the exhortations of the venerable preacher. He repeated his leading arguments, and, with an eloquence truly astonishing in one like him, pleaded the cause of religion and humanity. The ancient council then deliberated for nearly the space of two hours; after which the oldest man arose, and solemnly pronounced the result of the conference: "That the Christian God was more wise, more just, more beneficent and

powerful, than the Great Spirit; and that the missionary who delivered his precepts, ought to be cherished as their best benefactor, their guide to future happiness."

When this decision was pronounced by the venerable old man, and acquiesced in by the people, the rage of the Prophet of the Alleghany became terrible. He started from the ground, seized his tomahawk, and denouncing the speedy vengeance of the Great Spirit upon their whole recreant race, darted from the circle with wild impetuosity, and disappeared in the shadows of the forest.

[From the Portfolio, an American publication.]

INDIA-RUBBER DRESSES.

THE late prevalence of the India-rubber dresses, manufactured under the protection of a patent, by an ingenious tradesman, and from him named *Mackintoshes*, is calculated to give an interest to any details respecting a former attempt to apply a similar gum to similar purposes. Such an attempt was made, to a certain degree successfully, in the year 1789, in Prince of Wales Island, by Dr James Howison, surgeon in the Hon. East India Company's service, and now residing at Crossburn House, Lanarkshire.

The gum employed by Dr Howison was that of the tree since called the Elastic Gum Vine—the *Ureola Elastica* of Dr Roxburgh—which grows as an under-wood and parasitical plant in the forests on Prince of Wales Island. In using cutlasses to make their way through some of these forests, a party, including Dr Howison, were surprised to find the gum, after having dried on their weapons, possessed of all the properties of American caoutchouc. Having bored some branches and collected a considerable quantity of the gum, Dr Howison found it to be of a nature strongly resembling animal milk, being separable, by natural fermentation or chemical means, into a serous or wheyey, and a caseous or cheesy, parts, while a butyrous matter collected, like cream, on the surface.

After a variety of experiments on the nature of the gum, Dr Howison attempted to convert it to use as a means of making waterproof clothes. His first process was of a rude kind. Having made waxen models of legs and hands, and hung them up in rows, he daubed them over with a thin coat of gum, which soon dried. He then applied a second coat, and then a third, and so on, till they amounted to thirty, and formed in all a substance as thick as the bottles of caoutchouc received from America. It was necessary, however, after the drying of each coat, to wash off a butyrous or oily stuff which was left on the surface, and which was calculated otherwise to have prevented the new coat from incorporating with the old. When the process was completed, the experimenter drew off, from his moulds, as many pairs of elastic stockings and gloves. The inside being the smoother, in consequence of its having been in contact with the model, he made it the outside in wearing. Being desirous of making the stockings capable of wearing on the ground, he took a piece of gunny, or Indian sack-cloth, gave it a thick coat of gum, and, when dry, cut it into pieces of the size of soles. These he attached to the stockings by means of the gum, having first put the stockings upon the models, in order to keep them properly extended. In the same manner he added heels and straps, after which he had boots of a very neat appearance. To satisfy himself of their impenetrability by water, he stood in a pool, up to their tops, for fifteen minutes; after which, on taking them off, he did not find his stockings in the least degree damp.

After being thus far successful, he was greatly disappointed to find that his boots and gloves did not long keep their original shape, but, after being worn a few times, lost their neatness, and at the same time had a tendency, when stretched, to wear out at any place which was in the least degree thinner than the rest. To pursue a narrative prepared by him in 1796, "From what I had observed of the advantage gained in substance and uniformity of strength, by making use of gunny as a basis for the soles, I was led to suppose, that, if an elastic cloth, in some degree correspondent to the elasticity of the gum, were used for boots, stockings, gloves, and other articles, where that property was necessary, the defect above mentioned might in a great measure be remedied. I accordingly made my first experiment with Cossem-bazar stockings and gloves.

Having drawn them upon the wax moulds, I plunged them into vessels containing the milk, which the cloth greedily absorbed. When taken out, they were so completely distended with the gum in solution, that, upon becoming dry by exposure to the air, not only every thread, but every fibre of the cotton, had its own distinct envelope, and in consequence was equally capable of resisting the action of foreign bodies, as if of solid gum. The first coat by this method was of such thickness, that for stockings or gloves nothing farther was necessary. What were intended for boots required a few more applications of the milk with the fingers, and were finished as those made with the gum only. This mode of giving cloth as a basis, I found to be a very great improvement; for, besides the additional strength received by the gum, the operation was much shortened.

Of all the cloths upon which I made experiments, nankeen, from the strength and quality of its fabric, appeared the best calculated for coating with the gum. The method I followed in performing this, was to lay the cloth smooth upon a table, pour the milk upon it, and with a ruler spread it equally. But should this ever be attempted on a large scale, I would recommend the following plan: To have a cistern for holding the milk, a little broader than the cloth to be covered, with a cross bar in the centre, which must reach under the surface of the milk, and two rollers at one end. Having filled the cistern, one end of the piece of cloth is to be passed under the bar and through between the rollers; the former keeping the cloth immersed in the milk, the latter pressing out what is superfluous, so that none may be lost. The cloth can be hung out at full length to dry; the operation may be repeated until of whatever thickness wanted. For the reasons above mentioned, care must be taken that one fold does not come in contact with another while wet.

Besides an effectual clothing for manufacturers employed with the mineral acids, which has long been a desideratum, this substance, under different modifications, might be applied to a number of the useful purposes of life, such as making hats, great-coats, boots, &c. for sailors, soldiers, fishermen, and every other description of persons, who, from their pursuits, are exposed to wet; stockings to invalids who suffer from damp, bathing caps, tent coverings, for carriages of all kinds, for roofs of houses, trunks, buoys, &c."

Dr Howison mentions in the same paper, that he had already succeeded in making catheters and other surgical instruments, of a kind much superior to those commonly used, out of the same materials. He concludes with some recommendations for the culture of the vine, and a hope that articles made in the way he points out might yet become an important export from the East Indies to Europe. It is needless to say, that, since the publication of his paper, the manufacture was allowed to sleep, till reawakened by Mackintosh.

Whether the discovery will prove beneficial to the extent generally supposed, is by no means certain. When the India-rubber is used in clothing, it is calculated to put a stop to the carrying off of the insensible perspiration from the person, which is an evil of very serious moment. This, however, is an objection which does not strictly apply to the use of loose coverings.

BIOGRAPHIC SKETCHES.

KOSCIUSZKO.

THIS distinguished patriot—the Wallace of his country—was born in Lithuania, a district of Poland, in the year 1746. He was the son of one of the lesser barons of the country, a race corresponding in rank with our petty squires, or lords of the manor. Though held distinctly as members of the nobility, the family were poor; and it was by close attention to the agricultural concerns of his estate, that the father of Thaddeus Kosciuszko could maintain his family in comfort and respectability. Having served, however, in his youth under Prince Adam Czartoryski, through that illustrious nobleman's friendship he easily obtained a free education for his son in the Cadet Institution, which Stanislaus, then King of Poland, had a short time before established at Warsaw. In this academy, young Thaddeus distinguished himself highly for the ardour which he evinced in the pursuit of his studies, particularly of mathematics and history. A fellow-student has shown this eager application in a strong light, by informing us that Thaddeus, in order to make sure of rising as early as three o'clock, was in the habit of nightly attaching a string by one end to his arm, while the other passed out by the door of his room, and was pulled by the stove-keeper at the appointed hour in the morning. Besides its ultimate consequences, this application to study was not without its immediate reward. Kosciuszko was one of the youths, chosen by general examination, who were furnished, by the bounty of Stanislaus, with the means of improving themselves by travel and study in foreign lands.

After spending two years at the military academy at Versailles, Kosciuszko returned to Poland, and entered the army, in which, in consequence of the king's appreciation of his merits, he speedily obtained the rank of captain. A circumstance, however, soon after occurred, which drove the young soldier for a time from the land he loved so well. In the end of the year 1777, his regiment was quartered in Lithuania, and he himself lodged in the castle of Joseph Sosnowski, marshal of Lithuania, and vice-general of the crown. Kosciuszko, at the moment, thought his situation most blessed, for he had fixed his affections on Lady Louisa, the daughter of this very nobleman. Abundance of opportunities now fell in his way for the disclosure of his passion, and he was successful in exciting a reciprocal feeling in the lady's breast. With the frankness peculiar to his honourable nature, Kosciuszko desired Lady Louisa to reveal every thing to her parents; and the consequence was, that the proud noble and his wife rejected with scorn the idea of a union with a poor soldier, and forbade all intercourse between the lovers. They found means, however, to meet in secret, and in despair resorted to an elopement. They were pursued and overtaken at the instant when they were congratulating each other

on their successful scheme. Kosciuszko drew his sword to defend and retain his beloved, but he was overpowered by numbers, and left on the ground, wounded and alone. He never loved again; and the only relic which he possessed of his mistress, a white handkerchief which she dropped on being seized, never afterwards quitted his bosom, in the hottest hour of battle, by day or by night.

On recovering from a three hours' swoon which succeeded to the scene we have described, Kosciuszko crawled feebly to a neighbouring village, where one of his friends resided. This friend was Julian U. Niemcewicz, afterwards the most celebrated of Poland's modern poets, and now living in England, a voluntary exile from his native land. With this distinguished fellow-countryman, Kosciuszko remained for a time in retirement till his wounds were healed, after which he resigned his commission with the king's leave, and repaired to America, to drown his private grief in the midst of the active struggle for freedom in which the states were then engaged. On presenting himself as a volunteer before General Washington, a conversation took place, which shows strikingly the simple character of both of these great men. "What do you seek here?" was the brief query of the American leader. "I come to fight as a volunteer for American independence," said the frank and fearless Pole. Washington's next question was, "What can you do?" "Try me," was the brief rejoinder of Kosciuszko.

He was tried, and his talents, science, and valour being soon appreciated, he was made an officer, and afterwards further promoted. On one occasion early in his American career, he attracted the notice of Lafayette, his commander for the time, and laid the foundation of a friendship that continued through life. In many of the most important battles and sieges in this war, the noble Pole bore a distinguished part, and won the entire confidence of the discerning Washington. The influence which Kosciuszko gained over the American volunteers whom he led, was boundless, and it is gratifying to think, that it led to the sparing of bloodshed. Indeed, the Polish volunteer's name throughout the army was equally associated with bravery and humanity. At one time, by his personal interference, he saved the lives of forty English soldiers who had been surprised by night, and this he did even contrary to his superior's commands.

Upon the establishment of peace between Britain and the states, Kosciuszko returned with a high reputation to Poland, and was honoured by the king with the rank of general of brigade, and subsequently of major-general, the first being the rank he had attained in America. The well-intentioned but weak Stanislaus was at this time endeavouring to free Poland from the all-potent ascendancy of Russia, and on the 3d of May 1791, brought forward a new and improved constitutional charter, which he swore to observe, in presence of a temporary national assembly, which joined in the oath. Kosciuszko, who since his return had brooded in silent grief over the hateful subservience of his native land to Russia, started forward enthusiastically to support the king in his establishment of a charter which tended to remove the grievous obstacle to the freedom of Poland. And great necessity was there, for the aid of all true patriots. The Empress Catherine was not long in declaring her disapprobation of the change, and when the Polish magnates in her influence joined in a confederacy to overthrow the new charter, she announced her intention of sending a body of troops immediately to their support. Divided internally, Poland, it may readily be conceived, was not in a condition to struggle against a power so great. Yet, urged by a few ardent spirits like Kosciuszko, who was named lieutenant-general in the emergency, the king, feeble and vacillating as he was, resolved to oppose force with force.

The contest did not last long, yet, during its continuance, Kosciuszko made himself conspicuous in the eyes of his countrymen, by his military skill, and a degree of daring almost incredible. These qualities were exhibited in several encounters with the enemy, but it was at the battle of Dubienka that they shone out preeminently at this period. With only four thousand men and eight pieces of cannon at his command, he was posted at Dubienka, to defend the passage of the Bug, a river which joins the Vistula near Warsaw, against eighteen thousand picked Russian troops, backed by forty pieces of artillery. The conduct of the Polish hero on this occasion has been compared by military judges to that of Leonidas at Thermopylae. For five whole days did Kosciuszko repulse every attempt of the Russians, notwithstanding their great numerical superiority, and the skill of a brave leader. It was only when menaced by a heavy force behind him, that the Pole gave up the contest; and when he did retreat, he carried off his troops in good order, with a loss of nine hundred men, while of the enemy four thousand perished. The passage of the Bug overcame the constancy of Stanislaus. A week afterwards, he renounced the new charter, and ratified by his signature the restoration, pledging at the same time the impossibility of resistance. Kosciuszko, unable to remain a spectator of his country's degradation, resigned his commission, and departed once more to bury in a foreign country the grief that oppressed him.

Admiring his brave and patriotic character, sixteen young men of the first families in Poland followed the exile to Leipzig, where he received a diploma, constituting him a French citizen, in token of esteem, from

the National Assembly of France. The days of Kosciuszko were now spent in apparent quiet and privacy, but in reality he was incessantly engaged in organising a new struggle for independence, which his position at Leipzig enabled him to do without suspicion; for, in the eyes of both friends and foes, of Poles and of Russians, he was the man in whom all hopes and fears were centered. His country looked to him for counsel and guidance, and her enemies watched his movements with a jealous eye. To baffle them, he undertook a short journey to Italy, immediately before the preparations for a new rising were brought to a head.

The smothered ferment among the Poles became almost irrepressible, when the second partition of their country by the Russians, Austrians, and Prussians, was completed on the 14th of October 1793. An accident gave partial vent to the volcano. The Russian envoy, before the senate, and to Stanislaus, who was left a mockery of a king, delivered a proposal, or rather command, from his mistress, that the Polish army should be reduced, and the greater part of it incorporated with Russian troops. Whatever the servile senators might say to this, the Polish soldiery and people could not endure it, and rioting and incendiarism rose to a great height in Warsaw and other places, which the envoy was unable to check. When the news of this was brought to Kosciuszko, he saw that the hour of trial was come, and that a leader only was wanting to turn that fire which now expended itself in mischievous sallies, into the noble course of freedom. Hastily he posted to his country, and, on the night of the 24th of March 1794, entered Cracow, the old capital of Poland, at the head of a few friends. His arrival was soon known, and had the desired effect of raising the enthusiasm of the people in favour of his project.

By an act of the nobles assembled at Cracow, he was named Supreme Chief of the armies of Poland, with unlimited power to nominate the members of a National Council, over which he was to preside. On the morning after his arrival, he addressed the people, issued general proclamations, and began actively to fulfil his duty. His manifestos acted like enchantment on the nation. The din of arms resounded every where. Peasant and handicraftsman, noble and citizen, hastened, with what arms he could procure, to fight beneath the banner of *motherland*. Ladies tore off their jewels, and sold them to supply means to the expected deliverer. Numbers of women even took up arms, and fought by the sides of their husbands.

It is not our purpose to conduct the reader through all the details of the terrible struggle that ensued. It is sufficient to state, that, after several encounters in the field, Kosciuszko was made master of Warsaw, by a successful rising of the inhabitants, who expelled the Russians from the walls. In the capital, alternately, and in the field, Kosciuszko issued his decrees for the government of the nation, and headed her armies in the field. Moderation and wisdom marked his measures in the council, and skill and bravery distinguished his course in arms. But noble as his cause was, and though all he asked was just and free government, success was not destined to attend his exertions and those of his brave comrades. The particulars of the final scene are deeply interesting. After the Poles in other quarters were overthrown, Kosciuszko, with 20,000 men, crossed the Vistula to meet the Russians under Suwarow and Fersen, in the latter end of September 1794. "If any man wishes to go home," said the Polish leader to his men, "let him stand forth, and I pledge my word that he shall go in peace." No answer followed. The question was repeated more emphatically, when unanimous cries burst forth, "With thee, brave chief, we will fight to the death with thee!" An army animated with such a feeling was not to be easily overcome, even by double numbers. The contest was indeed one of "the bloodiest pictures in the book of time." Kosciuszko, in the course of the day, had three horses shot under him, and was once prostrated by a wound in the shoulder. His friend Niemcewicz assisted him to a fresh horse, but his fall had disordered the Poles, and they were driven back. Hurrying to recover them, the chief's horse fell in leaping a ditch, and Cossacks and carabineers were instantly upon him. By one enemy he was wounded in the head, and by another in the neck. Completely exhausted, Kosciuszko fell back, exclaiming, "Finis Polonia!" (the end of Poland.) "Freedom," says the well-known line of the poet,

"Freedom shrieked, as Kosciuszko fell!"

Within a month after this event, Poland was a conquered country, and was in a short time deprived even of the shadow of independence she had hitherto possessed in her king. Kosciuszko meanwhile was kindly treated by his captors, though the effects of his wounds debilitated him for life. The empress kept him in confinement in St Petersburg, from which, at her death in 1796, he was liberated, with professions of esteem, by the capricious Paul, who likewise bestowed on him a considerable sum of money. To the offers of a field-marshal's rank, on condition of entering the Russian service, Kosciuszko gave a direct refusal, though he was forced to consent not to bear arms against Russia. The bruised and broken-spirited Pole then set out with his friend Niemcewicz to America, where the Congress and the nation at large received him with open arms. Besides many honours, they conferred on him the substantial benefit of the pay he had formerly earned in their service. This not

only enabled him to return, with respectful expressions of gratitude, the sum received from Paul, but furnished a capital sum, the interest of which served to maintain him through life. Before leaving America, Kosciuszko showed that misfortunes had not soured his nature, by leaving in Jefferson's hands a considerable sum, to be employed after a time for the purposes of educating and of portioning *slave girls*. This sum was so well managed, that it amounted to fifteen thousand dollars, after several years had elapsed.

After his return to Europe, Kosciuszko, in 1798, took up his abode in France. His military career was now terminated, by his oath to Paul, and his life henceforward was one continued exhibition of the peaceful virtues. The French characteristically made the Polish hero's visit to their country the subject of fetes and acclamations; but though he loved the society of distinguished men in private, he shrank from spectacles and assemblies, after avoiding the charge of churlishness by attending one banquet in his honour. At this, while others spoke with ostentatious feeling of his country, Kosciuszko only wept. It was in Paris that he formed an intimacy with the family of M. Zeltner, the Swiss envoy, with whom he soon after took up his residence. This friendship lasted through life. Bonaparte, when First Consul, attempted to engage the exile in the French service; but his sword had been drawn only for freedom, and could not become a mercenary one.

Up till the year 1814, Kosciuszko continued to reside in peaceful retirement in France. During all this period, few incidents of any consequence occurred to interrupt his quiet. On the occasion of the French troops occupying Rome in the end of the eighteenth century, the Roman consulate had bestowed on the Polish legion the sword of John Sobieski. This the Poles transmitted to Kosciuszko, as the worthiest to possess it. A less pleasing event, during the period mentioned, was the use made of the exile's name by Napoleon, in attracting to his cause the Polish nation. Kosciuszko had indeed been pressed for his support, but had firmly refused it, because the emperor would not secure the independence or good of Poland. Napoleon unscrupulously used his name, notwithstanding, in proclamations, which the Pole was not enabled to deny till the year 1814. In that year, Kosciuszko was living at a village called Berville, when the Russian army entered France. A Polish legion in that service reached the neighbourhood of the exile, and began to commit many acts of devastation. Kosciuszko could not bear the sight. He rushed among them, and commanded them to desist. "Who are you to talk to us?" cried the scornful soldiery. "I am Kosciuszko!" At the name, officers and men fell on their knees, and with tears kissed the hem of his garments. They obeyed him like children, and the neighbourhood was saved.

By invitation at this period, the Polish patriot visited the Emperor Alexander at Paris, and received from him many promises of good to Poland. With the same monarch he had another interview at Vienna in 1815, whither he went in pursuance of a request for his intercession with the Congress from the magnates of Poland. The result was again—promises. After this period, Kosciuszko made a tour through Italy, and finally settled for life in the family of a brother of M. Zeltner. He never mingled with the world again, though many Poles visited him with the devotion of pilgrims. All his life from this time was spent in visiting and relieving the poor—acts which he kept secret even from the family circle. In the spring of 1817, by a public deed, he freed the peasants on his paternal estate from bondage, and about the same time had the pleasure of a visit from the lady of his only love, now Princess Lubomirska. Her society gave him pleasure unspeakable, and they parted with a promise to meet again the following spring. Alas! on the 16th of October of the same year, Kosciuszko breathed his last.

His body was buried in Switzerland, but it was raised in 1820, and conveyed to Poland. An immense mound, at which almost every inhabitant of the nation, male and female, assisted to work, was raised at Warsaw to his memory.

LEGEND OF FIDDLER'S WELL.

THERE is a path which, in the eastern part of the parish of Cromarty, goes winding over rock and stone along the edge of a range of low-browed precipices, till it reaches a fine spring of limpid water, that gushes out of the side of a bank covered with moss and daisies. This beautiful spring has been known to the people of the town for a century and more, by the name of Fiddler's Well. Its waters are said to be medicinal; and there is a tradition still preserved of the circumstance through which its virtues were first discovered, and to which it owes its name. Two young men of the place, who were much attached to each other, were seized at nearly the same time by consumption. In one, the progress of the disease was rapid; he died in two short months after he was attacked by it; while the other, though wasted almost to a shadow, had yet strength enough left to follow the corpse of his companion to the grave. The surname of the survivor was Fiddler—a name still common among the seafaring men of the town. On the evening of the interment, he felt oppressed and unhappy; his imagination was haunted by a thousand feverish shapes of open graves, with bones mouldering round their edges, and of coffins with the lids displaced; and after he had fallen

asleep, the images, which were still the same, became more grisly and horrible. Towards morning, however, they had all vanished; and he dreamed that he was walking alone by the sea-shore in a clear and beautiful day of summer. Suddenly, as he thought, some person stepped up behind, and whispered into his ear, in the voice of his deceased companion, "Go on, Willie; I shall meet you at Stowry." There is a rock in the neighbourhood of Fiddler's Well so called from the violence with which the sea beats against it when the wind blows strongly from the east. On hearing the voice, he turned round; and seeing no one, he went on, as he thought, to the place named, in the hope of meeting with his friend, and sat down on a bank to wait his coming; but he waited long, lonely, and dejected; and then, remembering that he for whom he waited was dead, he burst into tears. At this moment a large field-bee came humming from the west, and began to fly round his head. He raised his hand to brush it away; it widened its circle, and then came humming into his ear as before. He raised his hand a second time, but the bee could not be scared off; it hummed ceaselessly round and round him, until at length its murmurings seemed to be fashioned into words, articulated in the voice of his deceased companion. "Dig, Willie, and drink," it said; "dig, Willie, and drink." He accordingly set himself to dig; and no sooner had he torn a sod out of the bank, than a spring of clear water gushed from the hollow; and the bee, taking a wider circle, and humming in a voice of triumph that seemed to emulate the sound of a trumpet, flew away. He looked after it, but as he looked, the images of his dream began to mingle with those of the waking world; the scenery of the hill seemed obscured by a dark cloud, in the centre of which there glimmered a faint light—the rocks, the sea, the long declivity, faded into the cloud; and turning round, he saw only a dark apartment, and the first beams of morning shining in at a window. He rose, and after digging the well, drank of the water and recovered; and its virtues are still celebrated; for though the water be only simple water, it must be drunk in the morning, and as it gushes out of the bank; and with pure air, exercise, and early rising, for its auxiliaries, it continues to work cures.—*Statistical Account of Parish of Cromarty.*

OLD HISTORICAL HOUSE IN EDINBURGH.

IN the Canongate, a famous old street in Edinburgh, there is a house which has had the fortune to be connected with more than one of the most interesting points in our history. It is usually styled Moray House, being the entailed property of the noble family of Moray. The large proportions and elegant appearance of this mansion distinguish it from all the surrounding buildings, and, in the rear, there is a fine garden descending in the old fashion by a series of terraces. Though long deserted by the Earls of Moray, it is still kept in the best order, being occupied by families of respectable character.

This house was built in the early part of the reign of Charles I., (about 1628), by Mary Countess of Home, then a widow. Her ladyship's initials, M. H., appear, in cipher fashion, underneath her coronet, upon various parts of the exterior; and over one of the principal windows towards the street, there is a lozenge shield, containing the two lions rampant which form the coat armorial of the Home family. Lady Home was an English lady, being the daughter of Edward Sutton, Lord Dudley. She seems to have been unusually wealthy for the dowager of a Scottish earl, for, in 1644, the English parliament repaid seventy thousand pounds which she had lent to the Scottish Covenanted government, and she is found in the same year lending seven thousand to aid in paying the detachment of troops which that government had sent to Ireland. She was also a sufferer, however, by the civil war, in as far as Duglass House, which was blown up in 1640, by accident, when in the hands of the Covenanters, belonged to her in life. To her affluent circumstances, and the taste which she probably brought with her from her native country, may be ascribed the superior style of this mansion, which not only displays in the outside many traces of the elegant architecture which prevailed in England in the reign of James I., but contains two state apartments, decorated in the most elaborate manner, both in the walls and the ceilings, with the favourite stucco-work of that reign. On the death of Lady Home, the house passed (her ladyship having no surviving male issue) to her daughters and co-heiresses, Margaret Countess of Moray, and Anne Countess (afterwards Duchess) of Lauderdale, between whom the entire property of their father, the first Earl of Home, appears to have been divided, his title going into another line. By an arrangement between the two sisters, the house became, in 1645, the property of the Countess of Moray and her son James Lord Doune.

It stood in this condition as to ownership, though still popularly called "Lady Home's lodging," when, in the summer of 1648, Oliver Cromwell paid his first visit to Edinburgh. Cromwell had then just completed the overthrow of the army of the Engagement—a gallant body of troops which had been sent into England by the more Cavalier party of the Scottish Covenanters, in the hope of rescuing the king

from the hands of the sectaries. The victorious general, with his companion Lambert, took up his quarters in this house, and here received the visits of some of the leaders of the less loyal party of the Covenanters—the Marquis of Argyll, the Chancellor Loudoun, the Earl of Lothian, the Lord Arbuthnot, Elcho, and Burleigh, and the Reverend Messrs David Dickson, Robert Blair, and James Guthrie. "What passed among them," says Bishop Henry Guthrie in his Memoirs, "came not to be known infallibly; but it was talked very loud, that he did communicate to them his design in reference to the king, and had their assent thereto." It is scarcely necessary to remark, that this was probably no more than a piece of Cavalier scandal, for there is no reason to believe that Cromwell, if he yet contemplated the death of the king, would have disclosed his views to men still so far tainted with loyalty as those enumerated. Cromwell's object in visiting Edinburgh on this occasion, and in holding these conferences, was probably limited to the re-instatement of the ultra-presbyterian party in the government, from which the Duke of Hamilton and other loyalists had lately displaced them.

When, in 1650, the Lord Lorn, eldest son of the Marquis of Argyll, was married to Lady Mary Stuart, eldest daughter of the Earl of Moray, the wedding feast "stood," as contemporary writers express it, at the Earl of Moray's house in the Canongate. The event so auspicious to these great families was signalised by a circumstance of a very remarkable kind. A whole week had been passed in festivity by the wedded pair and their relations, when, on Saturday the 18th of May, the Marquis of Montrose was brought to Edinburgh, an excommunicated and already condemned captive, having been taken in the north in an unsuccessful attempt to raise a Cavalier party for his young and exiled prince. When the former relative circumstances of Argyll and Montrose are called to mind—when it is recollected that they had some years before struggled for an ascendancy in the civil affairs of Scotland, that Montrose had afterwards chased Argyll round and round the Highlands, burnt and plundered his country undisturbed, and on one occasion overthrown his forces in a sanguinary action, while Argyll looked on from a safe distance at sea—the present relative circumstances of the two chiefs become a striking illustration of the vicissitudes in private fortune that characterise a time of civil commotion. Montrose, after riding from Leith on a sorry horse, was led into the Canongate by the Watergate, and there placed upon a low cart, driven by the common executioner. In this ignominious fashion he was conducted up the street towards the prison in which he was to have only two days to live—and, in passing along, was necessarily brought under the walls and windows of Moray House. On his approach to that mansion, the Marquis of Argyll, his lady, and children, together with the whole of the marriage party, left their banqueting, and stepping out to a balcony which overhangs the street, there planted themselves to gaze on the prostrated enemy of their house and cause. Here, indeed, they had the pleasure of seeing Montrose, in all external circumstances, reduced beneath their feet; but they had not calculated on the strength of nature which enabled that extraordinary man to overcome so much of the bitterness of humiliation and of death. He is said to have gazed upon them with so much serenity, that they shrank back with some degree of discomposure, though not till the marchioness had expressed her spite at the fallen hero, by spitting at him—an act which in the present age will scarcely be credible, though any one well acquainted with the history of the seventeenth century will have too little reason to doubt it.

In the September of the same year, Cromwell overthrew the Scottish army at Dunbar, and gained possession of all the country south of the Firth of Forth. Being obliged to spend the winter in Scotland, he once more took up his quarters at this house, which was not only then the handsomest in Edinburgh, but is so at this moment, if we except the new parts of the city. Its gardens are spoken of in a Latin manuscript of this period as "of such elegance, and cultivated with so much care, as to vie with those of warmer countries, and perhaps even of England itself. And here," pursues the writer, "you may see how much the art and industry of man may avail in supplying the defects of nature. Scarcely any one would believe it possible to give so much beauty to a garden in this frigid climate." One reason for the excellence of the garden may have been its southern exposure. On the uppermost of its terraces, there is a large and beautiful thorn, with pensile leaves; on the second there are some fruit trees, the branches of which have been caused to spread out in a particular way, so as to form a kind of cup, possibly for the reception of a pleasure party, for such fantastic twistings of nature were not uncommon among our ancestors. In the lowest level of the garden, there is a little receptacle for water, beside which is the statue of a fishing boy, having a basket of fish at his feet, and a clam-shell inverted upon his head. Here is also a small building, surrounded by two lions holding female shields, and which may therefore be supposed contemporaneous with the house: this was formerly a summer-house, but is now expanded into the character of a conservatory. "Lady Moray's Yards" are spoken of, about the time of the Revolution, and much later, as a place of public resort, and scene of assignations. In this character they form a scene in the licentious play called "the As-

sembly," written in 1692 by the celebrated Dr Pycarne.

At the period of the Union, the Chancellor Seafield appears to have occupied Moray House upon lease, or by permission of the noble proprietor, and thus it became the scene of many of the private deliberations preceding the ratification of that treaty. The document itself is said to have been signed by the commissioners in the summer-house at the bottom of the garden.

THE ART OF DINING.

IN order to bring the dinner system to perfection, according to my idea, it would be necessary to have a room contrived on the best possible plan for eight persons, as the greatest number. I almost think six even more desirable than eight; but beyond eight, as far as my experience goes, there is always a division into parties, or a partial languor, or sort of paralysis either of the extremities or centre, which has more or less effect upon the whole. For complete enjoyment a company ought to be one; sympathising and drawing together—listening and talking in due proportions—no monopolist, nor any ciphers. With the best arrangements, much will depend upon the chief of the feast giving the tone, and keeping it up. Paulus Æmilius, who was the most successful general and best entertainer of his time, seems to have understood this well; for he said that it required the same sort of spirit to manage a banquet as a battle; with this difference, that the one should be made as pleasant to friends, and the other as formidable to enemies, as possible. I often think of this excellent saying at large dinner-parties, where the master and mistress preside as if they were the humblest of the guests, or as if they were overwhelmed with anxiety respecting their cumbrous and pleasure-destroying arrangements. They appear not to have the most distant idea of the duties of commanders, and instead of bringing their troops regularly into action, they leave the whole army in reserve. They should at least now and then address each of their guests by name, and, if possible, say something by which it may be guessed who and what each person is. I have witnessed some ridiculous and almost incredible instances of these defects. I remember once, at a large dinner-party at a great house, the lion of the day not being called out once, and going away without the majority of the company suspecting who he was. On a similar occasion, as a very distinguished man left the drawing-room, a scarcely less distinguished lady inquired who that gentleman was, who had been so long talking to her, though she had sat opposite to him at dinner. It appears to me that nothing can be better contrived to defeat its legitimate end than a large dinner-party in the London season—sixteen for instance. The names of the guests are generally so announced that it is difficult to hear them; and in the earlier part of the year the assembling takes place in such obscurity that it is impossible to see. Then there is often a very tedious interval of waiting, caused, perhaps, by some affected fashionable, some important politician, or some gorgeously decked matron, or, it may be, some culinary accident. At last comes the formal business of descending into the dining-room, where the blaze of light produces by degrees sundry recognitions; but many a slight acquaintance is prevented from being renewed by the chilling mode of assembling. In the long days the light is more favourable, but the waiting is generally more tedious, and half the guests are perhaps leaving the Park when they ought to be sitting down to dinner. At table, intercourse is prevented as much as possible, by a huge centre-piece of plate and flowers, which cuts off about one-half the company from the other, and some very awkward mistakes have taken place in consequence, from guests having made personal observations upon those who were actually opposite to them. It seems strange that people should be invited to be hidden from one another. Besides the centre-piece, there are usually massive branches to assist in interrupting communication; and perhaps you are placed between two persons with whom you are not acquainted, and have no community of interest to induce you to become so, for in the present overgrown state of society, a new acquaintance, except for some particular reason, is an encumbrance to be avoided.

When the company is arranged, then comes the perpetual motion of the attendants, the perpetual declining of what you do not want, and the perpetual waiting for what you do, or a silent resignation to your fate. To desire a potato, and to see the dish handed to your next neighbour, and taking its course in a direction from you, round an immense table, with occasional retrograde movements and digressions, is one of the unsatisfactory occurrences which frequently take place; but perhaps the most distressing incident in a grand dinner is, to be asked to take champagne, and, after much delay, to see the butler extract the bottle from a cooler, and hold it nearly parallel to the horizon, in order to calculate how much he is to put into the first glass to leave any for the second. To relieve him and yourself from the chilling difficulty, the only alternative is to change your mind, and prefer sherry, which, under the circumstances, has rather an awkward effect.

These, and an infinity of minor evils, are constantly experienced amidst the greatest displays, and they have, from sad experience, made me come to the conclusion, that a combination of state and calculation is the horror of horrors. Some good bread and cheese,

and a jug of ale, comfortably set before me, and heartily given, are heaven on earth in comparison. I must not omit to mention, amongst other obstacles to sociability, the present excessive breadth of fashionable tables, for the purpose of holding, first, the cumbrous ornaments and lights before spoken of; secondly, in some cases, the desert at the same time with the side dishes; and, lastly, each person's cover, with its appurtenances; so that to speak across the table, and through the intervening objects, is so inconvenient as to be nearly impracticable. To crown all, is the ignorance of what you have to eat, and the impossibility of duly regulating your appetite. To be sure, in many particulars you may form a tolerably accurate guess, as that at one season there will be partridges in the third course, and at another pigeons, in dull routine. No wonder that such a system produces many a dreary pause, in spite of every effort to the contrary, and that one is obliged, in self-defence, to crumble bread, sip wine, look at the paintings if there are any, or if there are not, blazon the arms on the plates, or, lastly, retreat into one's self in despair, as I have often and often done. When dinner is over, there is no peace till each dish in the dessert has made its circuit, after which the wine moves languidly round two or three times, and then settles for the rest of the evening, and coffee and small talk finish the heartless affair. I do not mean to say that such dinner-parties as I have been describing have not frequently redeeming circumstances. Good breeding, wit, talent, information, and every species of agreeable quality, are to be met with there; but I think these would appear to much greater advantage, and much oftener, under a more simple and unrestrained system. After curiosity has been satisfied and experience ripened, I imagine most people retire from the majority of formal dinners rather wearied than repaid, and that a feeling of real enjoyment is the exception, and not the rule. In the long-run, there is no compensation for ease; and ease is not to be found in state and superabundance, but in having what you want when you want it, and with no temptation to excess. The legitimate objects of dinner are to refresh the body, to please the palate, and to raise the social humour to the highest point; but these objects, so far from being studied, in general are not even thought of, and display and an adherence to fashion are their meagre substitutes. Hence it is that gentlemen ordinarily understand what pertains to dinner-giving so much better than ladies, and that bachelors' feasts are so popular. Gentlemen keep more in view the real ends, whereas ladies think principally of display and ornament, of form and ceremony—not all, for some have excellent notions of taste and comfort; and the cultivation of them would seem to be the peculiar province of the sex, as one of the chief features in household management. There is one female failing in respect to dinners which I cannot help here noticing; and that is, a very inconvenient love of garnish, and flowers, either natural or cut in turnips and carrots, and stuck on dishes, so as greatly to impede carving and helping. This is the true barbarian principle of ornament, and is in no way distinguishable from the "untutored Indian's" fondness for feathers and shells. In both cases the ornament is an encumbrance, and has no relation to the matter on which it is placed. But there is a still worse practice; and that is, pouring sauce over certain dishes to prevent them looking too plain, as parsley and butter or white sauce over boiled chickens. I cannot distinguish this taste from that of the Hottentot besmearing himself with grease, or the Indian with red paint, who, I suppose, have both the same reason for their practice. To my mind, good meat, well cooked, the plainer it looks the better it looks, and it certainly is better with the accessories kept till used, unless they form a part of the dish.

[From a work entitled "The Original," by Mr Walker.]

TIME FOR MATRIMONY.

The most proper age for entering the holy bands of matrimony has been much discussed, but never settled. I am entitled to my opinion; and although I cannot here give the grounds on which it rests, the reader may take it for granted that I could adduce, were this the proper place, a great number of weighty reasons, both moral and physical, for the dogma which I am going to propound. The maxim, then, which I would inculcate, is this—that matrimony should not be contracted before the first year of the fourth septennium, on the part of the female, nor before the last year of the same in the case of the male. In other words, the female should be at least twenty-one years of age, and the male twenty-eight years. That there should be seven years' difference between the ages of the sexes, at whatever period of life the solemn contract is entered upon, need not be urged, as it is universally admitted. There is a difference of seven years, not in the actual duration of life, in the two sexes, but in the stamina of the constitution, the symmetry of the form, and the lineaments of the face. The wear and tear of bringing up a family might alone account for this inequality; but there are other causes inherent in the constitution, and independent of matrimony or celibacy. In respect to early marriage, as far as it concerns the softer sex, I have to observe, that, for every year at

which the hymeneal knot is tied below the age of twenty-one, there will be on an average three years of premature decay of the corporeal fabric, and a considerable abbreviation of the usual range of human existence. It is in vain to point out instances that seem to nullify this calculation. There will be individual exceptions to all general rules. The above will be found a fair average estimate. On the moral consequences of too early marriages, it is not my intention to dilate; though I could adduce many strong arguments against, and very few in favour of, the practice. It has been said that "matrimony may have miseries, but celibacy has no pleasures." As far as too early marriage is concerned, the adage ought to run thus: "Marriage must have miseries, though celibacy may have no pleasures." The choice of a wife or a husband is rather foreign to my subject, and has occupied much abler pens than mine to little advantage. My own opinion is, that were the whole of the adult population registered as they come of age, and each person, male and female, drew a name out of the urn, and thus rendered matrimony a complete lottery, the sums total of happiness, misery, or content, would be nearly, if not exactly, the same, as upon the present principle of selection. This, at first sight, will appear a most startling proposition; but the closer we examine it, the less extravagant it will be found.—*Dr James Johnson's Economy of Health.*

POETRY AND REALITY.

A WISH.

Mine be a cot beside the hill;
A bee-hive's hum shall soothe my ear;
A willow brook, that turns a mill,
With many a fall shall linger near.
The swallow, oft, beneath my thatch,
Shall twitter from her clay-built nest:
Oft shall the neighbour lift the latch,
And share my meal, a welcome guest.
Around my ivied porch shall spring
Each fragrant flower that drinks the dew;
And Jenny at her wheel shall sing,
In russet gown and apron blue.
The village church among the trees,
Where first our marriage vows were giv'n,
With merry peal shall swell the breeze,
And point with taper spire to heav'n.

S. ROGERS.

THE WISH ENJOINED.

So damp my cot beside the hill;
The bees have ceased to soothe my ear;
The willow brook that turns the mill,
Is turn'd to please the miller near.
The swallow, hush'd beneath my thatch,
Bedaubs his windows from her nest;
Instead of neighbours at my latch,
Beggars and thieves disturb my rest.
From out the ivy at my door,
Earwigs and snails are ever crawling;
Jenny now sings and spins no more,
Because the hungry brats are squalling.
To village church, with decent pride,
In vain the pointing spire is giv'n;
Jenny, with Wesley for her guide,
Has found a shorter way to heav'n.

H. REPTON.

FIERCENESS OF THE BULL-DOG.

Naturalists have scarcely done justice to the wonderful fierceness and powers of endurance of the English bull-dog. In the year 1822, a large dog of this species, from some cause that was not observed, suddenly flew at a fine cart-horse that was standing at the end of one of the Liverpool Docks, and fixing his lacerating teeth in his shoulder, defied every effort to get him off. At first he was beaten with cart whips and sticks, with such fury as seemed enough to break his bones; but this being unavailing, a carpenter, with an adze in his hand, came up, and beat him with the blunt iron head of the instrument, till it was thought he had pounded him to a jelly, but the dog never moved a tooth. A man then took out a large pointed clasp knife, with which he stabbed him repeatedly in the back, limbs, and ribs, but with no better success. At length one of the spectators, who happened to have more strength of sinew and brain than the rest, squeezed the ferocious beast so tightly about the throat, that at length he turned up the white of his eyes and relaxed his jaws. The man threw him off to a distance, but the dog immediately went round the crowd, got behind the horse, and seized him by the thigh. As no terms could now be kept with this untamable brute, he was again loosened, and thrown into the dock to drown. He instantly, however, rose to the surface, when a sailor struck him a deadly blow on the head with a handspike, which again sent him to the bottom. He rose once more, and was again sent down in the same manner, and this process was repeated five or six times. At length one of the bystanders, who either possessed or assumed some right of property in the dog, overcame by his amazing tenacity of life, and weary of persecution, got him out, and walked off with this prodigy of English courage, to all appearance very little worse for the horrible conflict he had undergone.

A RISING GENIUS.

Timothy Sly's own Epistle (not the Master's).

Dear Dick—I copied my school letter to Father and Mother ten times before one was good enough, and while the teacher is putting the capitals and flourishes in I shall slip this off on the sly. Our examination was yesterday and the table was covered with books and things bound in gilt and silk for prizes but were all put away again and none of us got none only they awarded Master Key a new fourpenny bit for his essay on Locke because his friends live next door and little Combe got the tooth-ache so they would not let him try his experiments on vital air which was very scurvy. It didn't come to my turn so I did not get a prize but as the company was to stop tea I put the cat in the water butt which they clean out in the holidays and they will be sure to find her and we were all treated with tea and I did not like to refuse as they might have suspect something. Last night we had a stocking and bolster fight after we went to bed and I fought a little lad with a big bolster his name is Bill Harnacle and I knocked his eye out with a stone in my stocking but no body knows who did it because we were all in the dark so I could not see no harm in it. Dear Dick send me directly your Watties

Hymns to show for I burnt mine and a lump of cobblers was for the masters chair on breaking up day and some small shot to pepper the people with my gull gun and eighteen pennies in coppers to shy at the windows as we ride through the village and make it one and ninepence for there's a good many as I've a spite against and if farther won't give it you ask mother and say its for yourself and meet me at the Elephant and Castle and if there's room on the coach you can get up for I want to give you some crackers to let off as soon as we get home while they are all a kissing of me.—Your affectionate brother TIMOTHY SLY.—*Comic Almanac for 1857.*

CUPID'S TELEGRAPH.

Some years ago a provincial newspaper stated the following curious particulars:—"At a neighbouring town, we learn that a new system of signals has been introduced, which are rendered subservient to the affections of the heart and the obligation of the parties. For example, if a gentleman wants a wife, he wears a ring or a diamond on the first finger of the left hand; if he is engaged, he wears it on the second finger; if married, on the third; and on the fourth, if he never intends to be married. When a lady is not engaged, she wears a hoop or diamond on the first finger; if engaged, on the second finger; if married, on the third; and on the fourth, if she intends not to marry. When a gentleman presents a flower, a fan, or a trinket, to a lady with the left hand, it is on his part an overture of regard; if she receives it with the left hand, it is an acceptance of his esteem; but if with the right hand, it is a refusal of his offer. Thus, by a few simple tokens, explained by the above rules, the passion of love is expressed; and, through the medium of Cupid's telegraph, kindred hearts communicate information."

A DAFT BARGAIN.

About the middle of the eighteenth century, a natural, named daft Jamie, lived in the neighbourhood of Denholm in Roxburghshire, and was occasionally employed by the Laird of Cavers and his brother Captain Douglas, who resided at Midsheils, to transport them on his back across the water which flowed between their places of abode. One day Captain Douglas, resolved to have a little fun at the expense of his brother, bribed Jamie with a shilling to let the Laird down in the middle of the water. Accordingly, having taken Cavers on his back, and proceeded with him to the middle of the stream, "Oh! Laird," exclaimed Jamie, standing stock-still, "my kilt's yeuky." "Well, well, never mind that." "Ay, but I maun mind it," and, notwithstanding orders, entreaties, and threats, Jamie plumped the laird down into the water, to the infinite amusement of the captain, who stood laughing on the bank like to split his sides. Jamie soon returned for the captain, who, thinking of no other trick than his own, immediately mounted, and was carried into the stream. At exactly the same spot, Jamie again stood still. "Noe, captain," said he, "an' ye dinna gie me twa shillings mair, I'll let you doon too!" It is needless to say, that Captain Douglas had to buy himself off from the threatened immersion, besides suffering the retributive ridicule of his brother.—*Laird of Logan.*

A WHOLESALE MERCHANT.

An eminent cotton-yarn merchant of the present day commenced his career by retailing dyed and grey yarns in spindles and hanks. In process of time his business had increased so much, that from a shop he was obliged to remove to a capacious warehouse, and where he at the same time resolved to cut the retail trade, and sell only to manufacturers and others in the wholesale way. One day, while in close conference with an extensive cotton-spinner respecting the purchase of a lot of yarn, one of his old customers from the foot of Neilston Park, in the shape of a gash country wife, pushed up the door, and, at the top of her shrill voice, cried, "I'm wantin' twa spin's o' ye' cotton-yarn the day, sir." Our wholesale friend was much troubled before the man of spinning jennies; but, recollecting himself, he crossed the floor, and clapping the honest woman on the shoulder, "Mistress," quoth he, "we're in the wee way noo; we sell naething less than a five-pund bundell!"—*The same.*

FEMALE EDUCATION.

An American paper gives a pleasant description of the marriage of an honest farmer with a young lady, just graduated from a female country academy, after a residence therein of about six months. The husband, boasting of her learning, says—"She can tell the year and day of the month when our forefathers landed at Plymouth; knows the name of every capital town in the Union; can tell to an inch how far it is from here to the Antipodes I think she calls them; if you should bore a hole through the globe, and chuck a millstone into it, she can tell to a shaving what would become of the millstone. She is likewise a monstrous pretty painter, and can paint a puppy so well that you'd take it for a lion, and a sheep that looks as big and as grand as an elephant. She knows all about chemistry, and says that water is made of two kinds of gin; and air is made of ox-gin and nitre-gin, or (what is the same thing in English) salt-petre-gin. She says, that burning a stick of wood in the fire is nothing but a play of comical (chemical) infinity, and that not a particle of the matter which belonged to the stick is lost, but only scattered about like chaff in a hurricane."

CHANGING THE CHARACTER OF A DOG.

A Scotch gentleman, travelling in Yorkshire, on alighting at an inn, observing a strange-looking animal of the canine species squatted before the door, asked the hostler of what breed his dog was—when he received the following reply: "Why, sir, what measter got him, he wur a greyhound, and we call'd him Fly (Fly), but we cut the ears and tail on him, and made a mastiff on him, and we now call him Lion."

ARITHMETIC UNVEILED.

We have just seen a remarkable treatise on practical arithmetic with the above title, published by Smith and Elder, London. The bulk of the volume consists of multiplication tables, extending to the extraordinary length of 200 times 200, and is therefore a species of ready reckoner on a gigantic scale, which will be found extremely useful in every house of trade and scholar's library. Besides these tables, a variety of rules are given for abbreviating the labour of arithmetical calculations, worthy of being studied by accountants, stock-brokers, bankers, and others. The work is written by a Mr James M'Dowall, accountant.

The present number of the Journal completes the fifth volume of the work, for which a title-page and copious index are prepared, and may be had on application to the publishers or their agents, at the usual price of a number.

A fourth volume of the SPIRIT OF CHAMBERS'S JOURNAL is now published, price 4s.

END OF THE FIFTH VOLUME.

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